ACCESSORY KIT INSTALLATION INSTRUCTIONS

Masonry Chimney Draft Hood Kit

DESCRIPTION

Tile Lined Chimney Kit Model Numbers, 1CK0603 and 1CK0604 permits the venting of an 80% induced draft furnace to be vented into a properly sized masonry lined chimney, without installing a metal liner. The kit can be used on model series shown in Table 1.

This kit is only to be used on upflow and counterflow (downflow) installations only. The kit is not intended to be used with horizontally installed furnaces, or on furnaces where the lateral vent length exceeds the length specified in Table 2. The Tiled Chimney Kit is certified for use with Natural or LP gas.

INSTALLATION CHECKLIST

- Select Correct Kit Model (page 3)
- Verify Chimney Condition (page 4)
- Properly Size Flue Pipe (Table 2 or 3)
- Attach Chimney Kit (Figure 4)
- Connect Limit Switch Wiring (Figure 5)
- Check Kit for Spillage (Page 8)
- Place Furnace into Operation (Page 8)

⚠ CAUTION

For your safety, read and understand the instructions before installing the kit.

⚠WARNING

Improper installation may create a condition whree the operation of the product could cause personal injury or property damage.

Improper installation, adjustment, alteration, service, or maintenance can cause injury or property damage. Refer to this manual for assistance or additional information. Consult a qualified installer, service agency or the gas supplier.

⚠ CAUTION

This product must be installed in strict compliance with the enclosed installation instructions and any applicable local, state, and national codes including but not limited to building, elecctrical and mechanical codes.

SAFETY STATEMENT

The installer should pay particular attention to the words: **NOTE, CAUTION, AND WARNING**.

NOTES are intended to clarify or make the installation easier.

CAUTIONS are given to prevent equipment damage.

WARNINGS are given to alert the installer that personal injury and/or equipment or property damage may occur if installation procedures are not handled properly.

This furnace should be installed in accordance with all national and local building and safety codes and requirements, or in the absence of local codes, with the National Fuel Gas Code, ANSI Z233.1 (latest edition) or in Canada, The National Canadian Installation Code CAN/CGA B149.1 or B149.2 (latest edition), and other applicable codes.

This furnace shall not be connected to a chimney flue serving a separate appliance designed to burn solid fuel.

This kit is permitted to be used in any building in which the space surrounding the furnace is not depressurized by more than 0.02 in w.c. (5 Pa) below outdoor pressure by equipment such as exhaust fans or clothes dryers.

Minimum clearances to combustibles for the furnace that the kit is applied shall be maintained. This kit shall not be used on any model other than the models listed in Table 1. The room temperature surrounding the furnaces and vent connections shall be 60º F (42º C) or warmer.

CHIMNEY INSPECTION

For venting guidelines, refer to the venting tables in this manual. For additional requirements, refer to the National Fuel Gas Coce NFPA 54/ANSI Z223.1 and Standard for Chimneys, Fireplaces, Vents, and Solid Fuel Burning Appliances ANSI/NFPA 221, or The National Canadian Installation Code CAN/CGA-B149.1 or 149.2 in Canada. Also refer to Figure 1, Chimney Inspection Chart.

FURNACE SIZING

Size of the furnace not to exceed 50% incremental of the design heating load. Oversizing beyond 50% incremental of the design load increases the likelihood of condensate problems.

TABLE 1: List of Approved Model Series

Approved Furnace Model Series	Tile Lined Chimney Kit Model Number	Furnace Flue Outlet Size
BGU050* - 125*, FG8050* - 125*, G8C050* - 125*, GF8050* - 125*	1CK0603	3”
BGU150*, FG8D150*, GF8150D* FC8*, FL8*, GM8*, GR8*, GY8*, G8*, L8*, P*D*, P4HU, LC8*, LL8*,LM8*, P*8*, XYF8*, XYG8*	1CK0604	4”

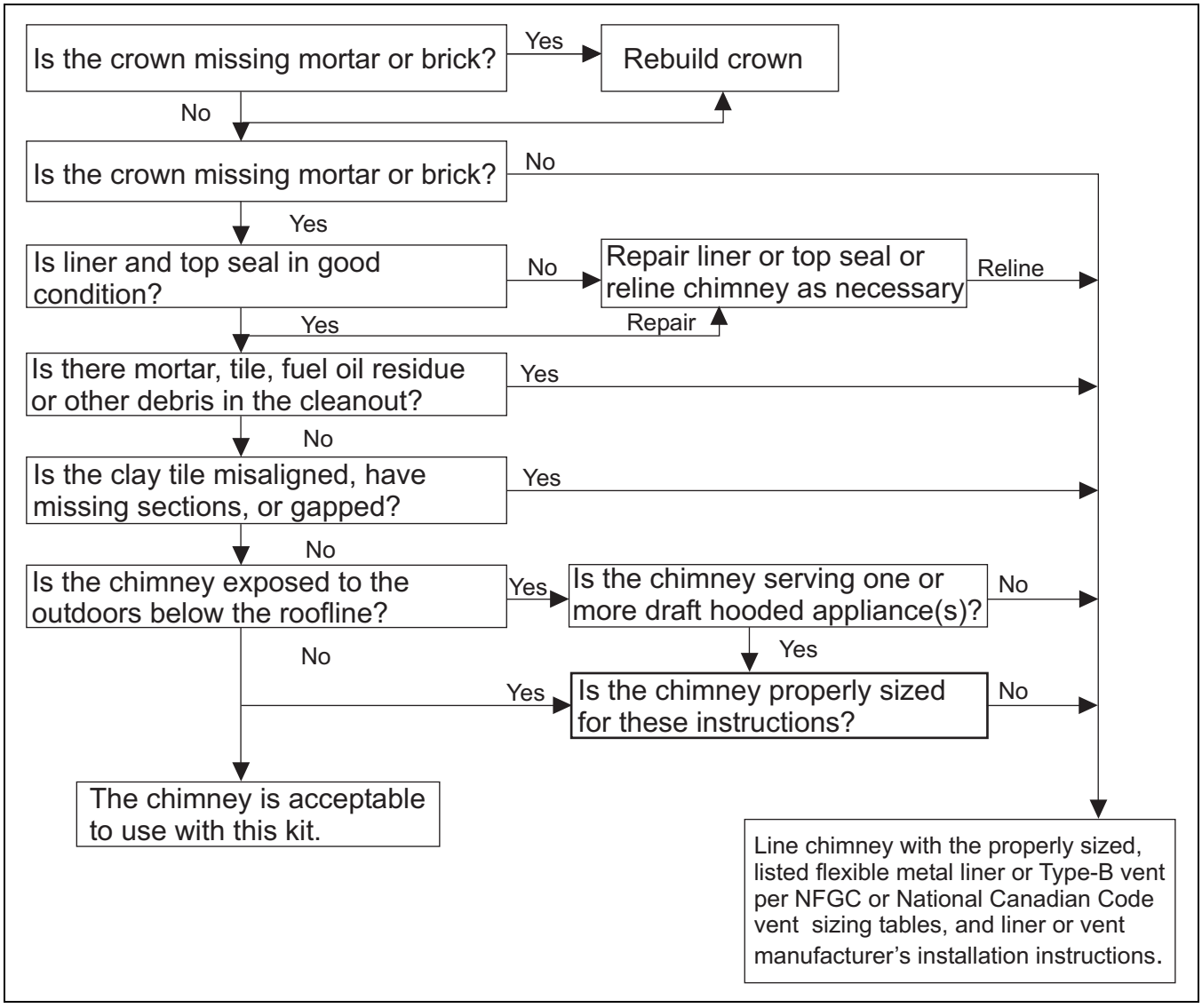
Is the crown missing mortar or brick?
Yes
Rebuild crown
No
Is the crown missing mortar or brick?
No
Yes
Is liner and top seal in good condition?
No
Repair liner or top seal or reline chimney as necessary
Reline
Repair
Yes
Is there mortar, tile, fuel oil residue or other debris in the cleanout?
Yes
No
Is the clay tile misaligned, have missing sections, or gapped?
Yes
No
Is the chimney exposed to the outdoors below the roofline?
Yes
Is the chimney serving one or more draft hooded appliance(s)?
No
Yes
No
Yes
Is the chimney properly sized for these instructions?
No
The chimney is acceptable to use with this kit.
Line chimney with the properly sized, listed flexible metal liner or Type-B vent per NFGC or National Canadian Code vent sizing tables, and liner or vent manufacturer’s installation instructions.

FIGURE 1: Chimney Inspection Chart

SINGLE APPLIANCE FOR INTERIOR CHIMNEY ONLY

TABLE 2: Vent Table - Interior Chimneys Only

Interior Chimneys Only							
Capacity of Masonry Chimney Flue with Type B Dougle-Wall Vent Connectors Servicing a Single Furnace Equipped with the Tile Lined Chimney Kit							
Type B Double-Wall Connector Diameter - D (inches) To be used with chimney areas within the size limits at the bottom of table							
Chimney Heights H (ft.)	Lateral L (ft.)	3”	4”	5”	6”	7”	8”
		Appliance Input Rate in Thousands of BTU per Hour					
		NAT	NAT	NAT	NAT	NAT	NAT
		Max.	Max.	Max.	Max.	Max.	Max.
6	2	28	51	86	130	180	247
	5	24	49	80	117	165	230
8	2	29	55	93	145	18	266
	5	26	51	88	134	183	247
	8	24	48	83	127	175	239
10	2	31	61	103	163	221	298
	5	28	57	96	148	204	277
	10	25	50	87	139	191	263
15	2	35	67	114	179	250	336
	5	34	62	107	164	231	313
	10	28	55	97	153	216	296
	15	NR	48	89	141	201	281
20	2	38	74	124	201	274	375
	5	36	68	116	184	154	350
	10	NR	60	107	172	237	332
	15	NR	NR	97	159	220	314
	20	NR	NR	83	148	206	295
30	2	41	82	137	216	303	421
	5	NR	76	128	198	281	393
	10	NR	67	115	184	263	373
	15	NR	NR	107	171	243	353
	20	NR	NR	91	159	227	332
	30	NR	NR	NR	NR	188	288
50	2	NR	93	161	251	351	477
	5	NR	NR	151	230	323	445
	10	NR	NR	138	215	304	424
	15	NR	NR	127	199	282	400
	20	NR	NR	NR	185	264	376
Minimum area of Chimney - A (sq. in.)		12	19	28	38	50	63
Maximum area of Chimney - A (sq. in.)		49	88	137	198	269	352

1. Seal any unused openings in the venting system. Inspect the venting system for proper size and horizontal pitch, as required in the National Fuel Gas Code, ANSI Z233.1 or CAN/CGA B149 Canadian Installation Codes, and these instructions. Determine that there is not blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition.
2. The vent tables are designed for two 90” elbows or equivalent. If additional elbows are used, five feet should be subtracted for each elbow from the above values.
3. High altitude installation input rates shall be derated starting at 2000 ft. altitude. Sea level input rates shall be used for chimney sizing and venting guidelines.
4. Vent connector length is limited to 1 1/2 ft. for each inch of vent connector diameter.
5. Vent connectors shall not be upsized more than two sizes greater than the listed appliance vent outlet diameter.
6. For multiple appliance installations, the flow area of the chimney shall not exceed 7 times the smallest draft hood outlet area.

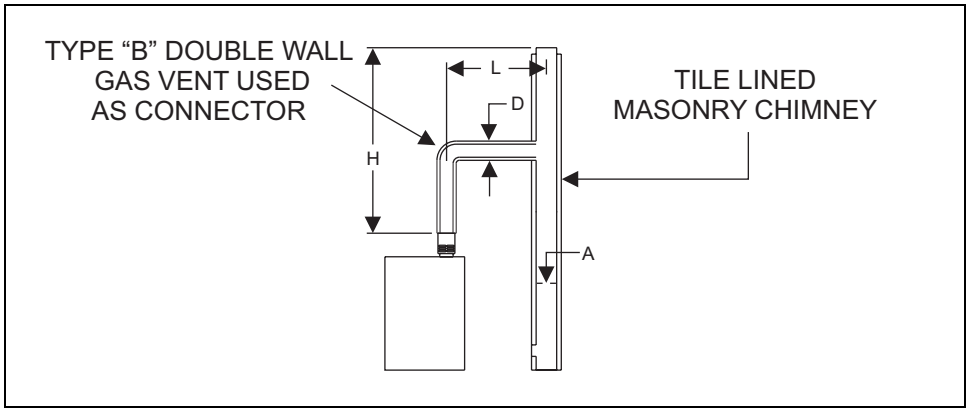

FIGURE 2: Single Appliance Vent Connector

MULTIPLE APPLIANCE-INTERIOR OR EXTERIOR CHIMNEY

TABLE 3: Vent Table - Interior or Exterior Chimney

INTERIOR OR EXTERIOR CHIMNEYS							
Capacity of Masonry Chimney Flue with Type B Double-Wall Vent Connectors Serving a Furnace Equipped with the Tile Lined Chimney Kit, and One or More Draft Hooded Appliances							
Type B Double-Wall Connector Diameter - D (inches) To be used with chimney areas within the size limits at the bottom of table							
Chimney Height (ft)	Connector Rise R (ft.) Largest	3”	4”	5”	6”	7”	8”
		Appliance Rating Limits in Thousands of BTU per Hour					
		NAT	NAT	NAT	NAT	NAT	NAT
		Max.	Max.	Max.	Max.	Max.	Max.
6	1	20	40	66	101	141	200
	2	28	52	85	124	173	232
	3	34	61	97	143	203	270
10	1	22	42	71	108	153	216
	2	29	54	87	129	184	247
	3	35	63	100	148	208	281
15	1	25	44	74	114	164	229
	2	31	55	89	134	192	260
	3	35	64	102	153	215	292
20	1	25	46	77	119	173	239
	2	31	56	91	138	199	270
	3	35	65	104	157	222	301
30	1	25	48	82	127	186	255
	2	32	58	95	145	209	287
	3	36	66	107	163	233	317
50	1	25	51	89	143	213	294
	2	33	61	102	160	235	326
	3	36	69	115	180	260	357

1. Seal any unused openings in the venting system. Inspect the venting system for proper size and horizontal pitch, as required in the National Fuel Gas Code, ANSI Z233.1 or CAN/CGA B149 Canadian Installation Codes, and these instructions. Determine that there is not blockage or restriction, leakage, corrosion and other deficiencies which could cause an unsafe condition..
2. The vent tables are designed for two 90º elbows or equivalent. If additional elbows are used, five feet should be subtracted for each elbow from the above values.
3. High altitude installation input rates shall be derated starting at 2000 ft. altitude. Sea level input rates shall be used for chimney sizing and venting guidelines.
4. Vent connector length is limited to 1 1/2 ft. for each inch of vent connector diameter.
5. Vent connectors shall not be upsized more than two sizes greater than the listed appliance vent outlet diameter.
6. For multiple appliance installations, the flow area of the chimney shall not exceed 7 times the smallest draft hood outlet area.

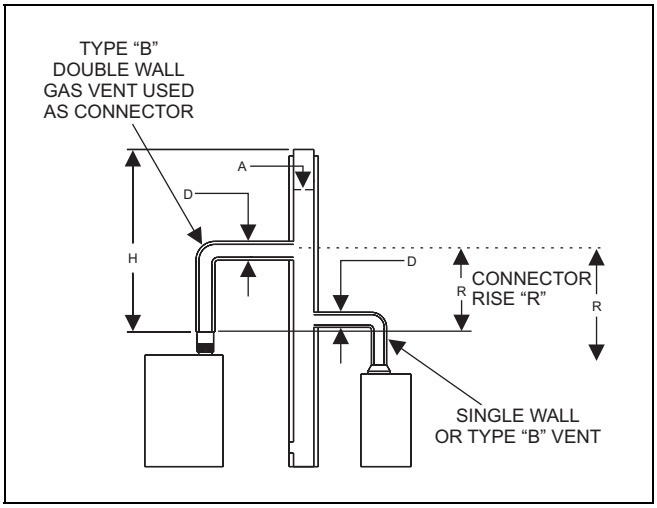

FIGURE 3: Multiple Appliance Vent Connector

TABLE 4: Masonry Chimney Liner Dimensions with Circular Equivalents

Nominal Liner Size (Inches)	Inside Diameter of Liner (Inches)	Inside Diameter or Equivalent Diameter (Inches)	Equivalent Area (Square Inches)
4 x 8	2 1/2 x 6 1/2	4	12.2
		5	19.6
		6	28.3
		7	38.3
8 x 8	6 3/4 x 6 3/4	7.4	42.7
		8	50.3
8 x 12	6 1/2 x 10 1/2	9	63.6
		10	78.5
12 x 12	9 3/4 x 9 3/4	10.4	83.3
		11	95
12 x 16	9 1/2 x 13 1/2	11.8	107.5
		12	113
		14	153.9
16 x 16	13 1/4 x 13 1/4	14.5	162.9
		15	176.7
16 x 20	13 x 17	16.2	206.10
		18	254.4
20 x 20	16 3/4 x 16 3/4	18.2	260.2
		20	314.10

INSTALLATION OF CHIMNEY KIT ASSEMBLY

The Tile Lined Chimney Kit is for use on Furnace Models listed on Page 2.

1. Disconnect power and shut off the gas supply to the furnace.
2. Turn off gas supply to the furnace at the manual valve.
3. Remove burner access door.
4. Remove screw from the front of the chimney kit. Set the screw aside.
5. Attach the chimney kit onto the flue outlet of the furnace.
6. Secure the chimney kit to the furnace with the screw that was set aside.
7. Install the black bushing that is provided in the parts bag of the kit into one of the 7/8” diameter holes located on the side of the furnace.

⚠WARNING

The wire harness to the kit shall not be routed into the junction box.

8. Route the wire harness from the chimney kit into the burner compartment of the furnace through the bushing. For counterflow furnaces, route the wire through the Dgrommet and then into the burner compartment.

⚠WARNING

The wire harness should be routed above the burner box to avoid the possibility of any damage to the wire. (See Figure 4 below).

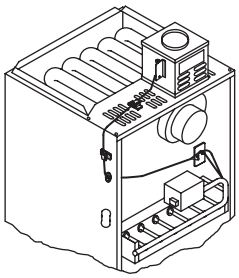

FIGURE 4: Burner Box

9. Remove the red insulated wire from the primary limit switch and connect it to the chimney kit wire harness lead.
10. Connect the second lead from the dhimney kit wire harness to the primary limit terminal. (See Figure 5 below).

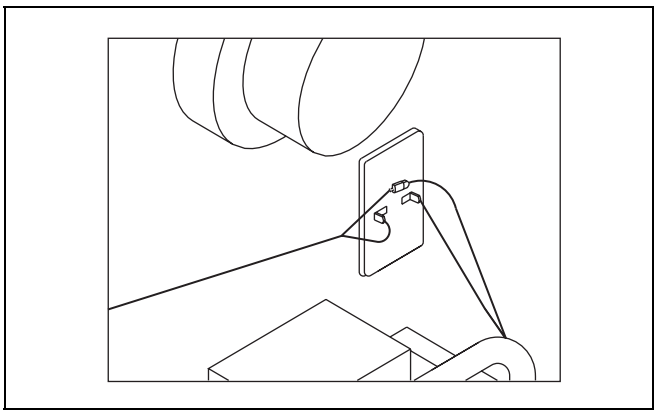

FIGURE 5: Wire Harness

11. Secure the wire harness from the chimney kit to the cabinet with the wire clips provided.
12. All excell wire should be fastened inside the furnace with the cable tie wrap provided in the parts bag.

⚠WARNING

The wire should be secured away from the burner compartment, or from any live metal or rotating part.

13. Attach the proper size of vent pipe and fasten the pipe to the chimney kit securely. (See Tables 2 and 3 for proper size).

INSTRUCTIONS TO PLACE THE FURNACE INTO OPERATION

1. Verify that all the electrical connections that were made while installing the chimney kit are secure.
2. Inspect the vent system for any leakage, corrosion, or restrictions.
3. As practical, close all doors and windows icluding doors that are in the same room as the furnace. Turn on all exhaust fans (range hoods, bathroom fans) not including summer exhaust fans. Fireplace dampers should be closed.
4. Turn on the power to the furnace and open manual gas valve.
5. Adjust the thermostat to allow the furnace to operate for at least 10 minutes.
6. Once the furnace has operated, check for vent gas spillage at the draft openings with the open flame of a match or candle.
7. If the furnace is installed where it is common vented to another draft hooded appliance(s) (i.e. water heater), follow operating instructions and adjust for continuous operation.
8. Check for spillage at the draft hood of the other appliance(s) and again at the chimney kit.
9. If there is any flue gas spillage from any of the draft hoods, the vent system and the connections must be corrected.
10. Once proper installatin and operation are verified, turn off all the appliances, return fans and vent dampers to their original position.
11. The installation instruction for the chimney kit should be located near or around the furnace for future reference.

TABLE 5: Parts List

Item	Part Number	Quantity
Chimney Kit	1CK0603, 1CK0604	1
Limit Switch	025-27792-003	1
Bushing	025-22638-000	1
WIre Clip	N/A	3
Cable Strap	025-16159-000	1
Wire Harness	025-35396-000	1
Instruction Manual	035-17453-000	1

NOTES

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